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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,605	08/04/2003	Sergio Lemaitre	GEMS 0171 PUS	1604
27256	7590	01/04/2005	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034			VO, TUYET THI	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/604,605	Applicant(s) LEMAITRE ET AL.	
	Examiner Tuyet Vo	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,10,11 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 12-14 is/are objected to.
- 8) ☒ Claim(s) 19-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/04/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-18 are drawn to a structure of imaging tube classified in class 315, subclass 169.4.
- II. Claims 19-29 are drawn to construction of a non-contact x-ray source classified in class 378, subclass 138.

These inventions above are distinct from the other because of the following reasons:

1. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the invention I discloses an imaging tube comprising a cathode source for generating electron beam focusing on anode screen while invention II requires a measured element (probe) for directing a signal in transmitting and receiving manner. The subcombination of the invention I has separate utility such as to produce a high quality image by controlling a precise electron beam projecting toward focal spot on an anode screen of flat display panel.
2. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Mr. Jeffrey Chapp (Reg. No. 50,579) on 12/2004 a provisional election was made with traverse to prosecute the invention I, claims 1-18.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-29 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 10, 11 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Chidester et al. (US Pat. 6,438,207), hereinafter Chidester.

Regarding claim 1, Chidester discloses a cathode for an imaging tube (Figs. 2-4) comprising:

an emitter (22) emitting an electron beam (100) to a focal spot (102) on an anode (14);
a backing member (20) electrically disposed on a second/bottom side of said emitter (22) contributing in formation (col. 8, lines 52-64) of said electron beam; and
at least one deflection electrode pair (70, 72) electrically disposed between said backing member (20) and said anode (14) and adjusting positioning of said focal spot on said anode (col. 54-59).

Regarding claim 2, Chidester further discloses a front member (52, 54) electrically coupled between a first/upper side of said emitter (22) and said anode and having an aperture (50) contributing in formation of said electron beam (col. 10, lines 11-19).

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Regarding claim 3, Chidester also suggests at least one deflection electrode pair (70, 72) comprises a first side steering electrode (70) electrically disposed on a first side of an emitter centerline; and a second side steering electrode (72) electrically a second side of an emitter centerline disposed on a second side of an emitter centerline.

Regarding claims 4-6, Chidester teaches a first and a second insulator (74, 76) coupled between first and second steering/deflection electrodes (70, 72) respectively and the backing/base member (20), wherein one deflection electrodes (70, 72) is electrically disposed between a front member (52, 54) and the backing member (20) and one deflection electrodes (70, 72) is electrically disposed between a front member (52, 54) and the emitter (22).

Regarding claims 7, 10, 11 and 15, Chidester discloses a plurality of insulators (74, 76) coupled between the backing member (20) and a front member (52, 54) and isolating at least one component of cathode (22), wherein the cathode is mechanically symmetrical (Figs. 3 and 4) and an electron beam (100) passage area between a pair of deflection electrodes (70, 72). The asymmetrically beam extracted from emitter due to different bias applied to deflection electrodes (col. 11, lines 54-65).

Regarding claims 16-18, Chidester discloses a method for operating an electromagnetic source comprising:

- emitting an emitting beam (100) from a differentially bias cathode (10);
- generating a dipole field;
- interacting said electron beam with said dipole field and

differential bias of said differentially biased cathode, and modifying the dipole field and modifying asymmetrically biasing said electron beam toward to different focal spot (106) on the anode by applying differential voltage used on each deflection electrode (col. 11, lines 54-65).

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Evain et al. (US Pat. 5,125,019), hereinafter Evain.

Regarding claim 1, Evain discloses a cathode for an imaging tube (Figs. 2, 6 and 7) comprising:

- an emitter (22) emitting an electron beam to a focal spot (28) on an anode (24);

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a backing member (23) electrically disposed on a second/bottom side of said emitter (22) contributing in formation (col. 3, lines 17-23) of said electron beam; and

at least one deflection electrode pair (30, 31) electrically disposed between said backing member (23) and said anode (24) and adjusting positioning of said focal spot on said anode (col. 6, lines 53-55).

Regarding claims 3-5, Evain further discloses a deflection electrode pair having steering electrodes (30, 31), steering electrode insulators (32, 33) arranged in a manner as claimed invention.

Allowable Subject Matter

4. Claims 8, 9 and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to establish at least one deflection electrode pair and the backing member are biased to cause current of the electron beam to be modulated or to be cut off as required in claims 8 and 9 or at least one deflection electrode pair comprises a first pair of deflection electrodes and a second pair of deflection electrodes as required in claim 12.

Citation of pertinent prior art

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Bani-Hashemi et al. (US Pub. 2003/0223538) discloses system and method for electronic shaping of X-RAY beam.

Correspondence

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

A handwritten signature in black ink, appearing to read 'Tuyet Vo', is written over a horizontal line.

Tuyet Vo
Primary Examiner

December 26, 2004